Section 12 Container Handling/Spill Prevention and Containment Program

This chapter of the Health and Safety Plan describes the potential for hazardous substance spills at deployment site and procedures for controlling and containing such spills. The purpose of this chapter of the Plan is to ensure that spill containment planning is conducted and appropriate control measures are established.

The spill containment program is consistent with OSHA requirements in 29 CFR 1910.120(b)(4)(ii)(J) and (j)(1)(viii).

12.1 Potential Spills and Available Controls

Drums may be the most common type of container used for transferring materials at deployment sites. What usually comes to mind is the 55-gallon metal drum. This drum has two types.

- Open-top, where the full lid is removable, used for solids.
- Closed-top, where the only access is through a smaller capped hole known as a bung. This drum usually holds liquids.

There are other types of drums, for example:

- "Fiber" drums may be made of plastic or a cardboard-like material.
- Metal 5-gallon pails may have removable lids.

Metal and fiber drums come in many sizes. Other containers such as totes may be used at deployment sites. The spill response kits and control areas will be expanded to accommodate the larger amount of material.

The hazardous materials used during a deployment are many and varied. Oils, disinfectants, pesticides and acids are a few examples of the materials used. The labeling on the drum or container will be the most readily available source of information on the chemical. The MSDS for the material is also to be consulted for safe handling information, for specific spill requirements and storage/use incompatibilities.

Safe drum handling

Handling the drums in a safe manner will help prevent a number of spills.

Inspection of Drums

Integrity checks at several points in the life cycle of a drum are crucial to ensuring personal safety, environmental protection, and regulatory compliance. Prior to moving or handling any drum that has material in them, or that are about be used to hold materials (whether the drum is new or used), the person responsible for handling or transportation must perform an external drum integrity inspection. An example Inspection checklist is provided in Appendix 12- A.

Securing the Drum Lid to the Drum

Once the initial inspection has been completed, the drum is holding material and will not be used for the up coming time, the lid must be secured by filler. This is a relatively simple, but often shortchanged, procedure that must be performed in its entirety for every drum, without fail. Match the lid to the drum. Lids vary from

manufacturer to manufacturer and with the size and type of drum. They are not interchangeable. Make sure that the lid selected properly fits the drum.

1. Inspect the lid gasket to assure that it is in good condition and is properly installed. Good condition means no cracks, no breakage, and that the gasket is firmly attached to the lid.
2. Place the lid onto the drum and press it down so that the curved lip of the lid covers the top chime (top edge of the drum) of the drum. Position the latching lever so that it is on the top of the ring after it is installed on the drum.
3. The lugs of the bolt-ring must be pointed down below the ring. Ensure the bottom edge of the ring engages the top lip of the drum.
4. Insert the bolt through the lug without threads. Next, screw on the locking nut; then screw the bolt into the threaded lug.
5. If available, use a non-sparking ratchet wrench. If not, use any available wrench to torque the bolt. While tightening the bolt, tap the entire perimeter of the ring with a rubber mallet, starting directly across from the bolt. Tighten the bolt. The lid and ring should not spin, but the free ends of the ring should not touch.
6. Tighten the locking nut against the lug without threads. This prevents the bolt from backing out of the closing ring.

Pull the latching lever fully closed and hook it under the latch. After the bolt is securely tightened, inspect the ring to be sure that it fully encompasses the rolled edge of the drum lid and engages beneath the lip of the drum (chime).

Safe Operation of Drum Dollies

If a drum dolly or stair climber are available, they should be used for moving drums. The operation of the dolly and stairclimber are simple:

1. Break (tilt) the drum away from your body slightly and slide the drum truck under the drum.
2. When the drum is in position (the upright portion of the drum truck is in

contact with the drum), slide the safety clamp into place over the near chime. If available, place the safety strap over the drum to further secure the drum to the drum truck.

Precautions include:

1. Keep the center of gravity of the load as low as possible. Let the truck carry the load; the operator should only control the balance and direction of the load.
2. Drum dollies should be pushed rather than pulled.
3. Operate the drum truck at a safe speed. Do not run. Keep the drum truck under control.
4. Make sure the path of travel is clear of all obstacles and debris.
5. The three most common operational hazards are:
   - Running wheels off bridge plates or platforms;
   - Colliding with other drum dollies or obstructions; and Jamming hands between the drum truck and other objects.

NOTE: Only one drum may be loaded on the truck at a time—no double stacking

If the dolly or stairclimber is used to ascend or descend stair, the following precautions should be followed:

Ascending Stairs

1. Break the drum away from your body slightly and slide the stairclimber under the drum.
2. Slide the safety clamp over the top chime. Also, if available, secure the restraining strap to properly secure the drum to the stairclimber.
3. To begin climbing stairs, tilt the stairclimber backwards until the rotating treads in the middle of the stairclimber are resting against the top edge of the first step.
4. Gradually pull the stairclimber up the step, letting the treads help assist in "walking/lifting" the stairclimber along the top edges of the steps to the next level.
5. Continue this process until you have reached the top of the stairs.

Descending Stairs

1. Tilt the stairclimber backwards and proceed down the stairs with the rotating treads assisting in "walking" the stairclimber down along the top edge of the steps, while maintaining gradual resistance on the stairclimber. Let gravity assist in lowering the stairclimber down the steps.

Continue this process until you have reached the bottom of the steps.

NOTE: Make sure the stairs are clear of any obstacles and debris prior to ascending or descending.

Wherever spills, leaks, or ruptures can occur, the site must keep suitable quantities of proper absorbent and US Department of Transportation-specified salvage drums/containers (see Appendix 12-B for suggestions on spill clean-up

kits). Their location will be noted on the sample form included in Appendix 12-C. In addition, all areas where materials are transferred to and from containers will be arranged to minimize the likelihood of spills and to keep the amount spilled to a minimum.

Guidelines for safe material/container movement include:

1. Always use a drum truck when it is available.
2. Make sure the pathway is clear of obstructions.
3. Check the drum for burrs or loose metal.
4. Check pallets for splintering.
5. If the drum is too heavy, get help.
6. Use care when manipulating drums that are in tight clusters.
7. Make sure bungs or other openings are tightly sealed.
8. Do not cross feet or hands when rolling drums (both hands should be on the drum at all time.
9. Extreme caution should be used with drums that are not intact or tightly sealed.
10. Overpacks and other spill response materials should be readily available.

Methods for controlling hazards during storage include:

1. Keep incompatible chemicals segregated from each other.
2. Keep flammables and combustibles away from heat sources by distance or special barriers.
3. Maintain adequate ventilation.
4. In all staging areas, drums should be staged two wide in two rows.
5. The rows should be spaced seven to eight feet apart.
6. Spacing should enable movement of drum handling equipment.

7. Inspections should be made of containers to recognize problems before they get worse.

12.2 Initial Spill Notification and Response

Any worker who discovers a hazardous substance spill will immediately notify their supervisor. The worker will, to his/her best ability, report the hazardous substance involved, the location of the spill, the estimated quantity of material spilled, the direction/flow of the spill material, related fire/explosion incidents, and any associated injuries. The site Emergency Response Plan, found in Chapter 10 of this HASP, will immediately be implemented if an emergency release has occurred.

Employee response to the spill should be defensive in nature (limiting or stopping the spread of the spill), unless trained to a higher level of spill response and approved by the supervisor to attack the spill aggressively.

Spill containment methods take various forms. The objective is to prevent spills from moving away from the area where they can be handled quickly and efficiently. Containers are segregated and stored in bays that are large enough to hold most or all of the spilled substance.

Bare soil should be covered by a barrier, such as plastic or concrete so that spills will not move into the ground.

Isolate drains, ditches and other access routes to water supplies or collection systems using absorbent pads booms or ditches.

The various materials in the spill response kit, soils or items in the vicinity are used to limit the spread of the spill. The source of the spill should only be addressed if the employee has the adequate PPE and there are minimal hazards in stemming the source of the spill. See Appendix 12-D for overpack instructions.

12.3 Spill Evaluation and Response

The supervisor will evaluate the spill and determine the appropriate response. When this evaluation is being made, the spill area will be isolated and demarcated to the extent possible.

The procedures of the Emergency Response Chapter of this HASP are implemented when the spill is determined to require emergency precautions and action. If necessary to protect nearby community members, notification of the appropriate authorities is made.

The supervisor will notify the Incident Safety Officer who will determine if notification of another Federal Agency is warranted.

Clean-up activities will only be conducted by employees with the adequate training. This will be determined by the Incident Safety Officer, with consultation of the HAZWOPER regulations (see Appendix 1-1).

When an incidental release occurs, cleanup personnel receive instructions in a pre-cleanup meeting as to spill conditions, PPE, response activities, decontamination, and waste handling.

12.4 Post-Spill Evaluation

A written spill response report is prepared at the conclusion of clean-up operations. The report includes, at a minimum, the following information:

* date of spill incident
* cause of incident
* spill response actions
* any outside agencies involved, including their incident reports
* lessons learned or suggested improvements

The spill area is inspected to ensure the area has been satisfactorily cleaned. If the Incident Safety Officer, in consultation with environmental protection staff, deems necessary, the use of soil, water, and air sampling is utilized in this determination as necessary. The root cause of the spill is examined and corrective steps taken to ensure the engineering and control measures in place have performed as required. If alternative precautions or measures are needed, they are made available and implemented.

All durable equipment placed into use during cleanup activities is decontaminated as specified in the Decontamination chapter of this HASP for future utilization. All spill response equipment and supplies are replenished as required.